

Consumption Behavior in Families: A Statistical Survey on Phone Consumption

Allison Ma

Abstract

This study examines whether an association exists between the phone brand used by high school students and the phone brands used by their parents. Data were collected through in-person interviews with 22 high school students aged 16–18 from the San Francisco Bay Area. A chi-square test of independence was conducted to analyze the relationship between student phone brand (Apple vs. non-Apple) and parent phone brand (Apple vs. non-Apple). The analysis yielded a chi-square value of $\chi^2 = 0.05$ with 1 degree of freedom and a p-value of 0.82. Because the p-value exceeded the conventional significance threshold of 0.05, the null hypothesis was not rejected, indicating no statistically significant association between the variables in this sample. Although many students reported using the same phone brand as at least one parent, this pattern did not differ significantly from what would be expected by chance. These findings suggest that, within this sample, parental phone brand is not a statistically significant predictor of a student's phone brand, highlighting the need for further research with larger and more diverse samples.

Introduction

Understanding the development of consumer preferences within families is an important topic in researching consumer behavior. Previous studies on consumerism suggest that interactions within a family, communication patterns, and parental influence play significant roles in shaping adolescents' attitudes towards certain brands and purchasing decisions. For example, research indicates that how a parent communicates about products and models consumption behaviors can influence how their children perceive brands and make their own consumer decisions (Ward, 1974).

Parents often purchase items for their children that are similar to what they own since they have to provide financial support; Rose notes that general patterns of parent-child interactions are closely linked to consumer practices, including monitoring consumption, restricting media use, and providing children with opportunities for independent consumption (Rose, 1999). In the context of consuming technology, these practices may influence the brands that adolescents are more frequently exposed to and therefore the brands they are more likely to use. More recent research suggests that parents' strategies can directly shape and influence children's online purchasing influences and shopping behavior; this implies that family dynamics continue to be an important factor in consumer choices in the digital and online consumerism contexts (Williams & Willick, 2023).

Examining such patterns in consumption is important as these behaviors extend beyond individual purchasing decisions; these decisions can also reflect broader psychological and societal trends. Technology consumption, in particular, plays a central role in an adolescent's social interactions, communication habits, and daily routines. Understanding the development of consumer preferences may provide broader insight into brand loyalty, decision-making

processes in consumption, and the potential long-term effects of consumption patterns. By studying the relationship between parental and adolescent phone brand choices, this project seeks to explore how familial influence may contribute to consumer behavior in a highly technology-driven society.

Hypothesis

There is an association between the phone brand used by high school students and the phone brand used by their parents.

Null Hypothesis

There is no association between the phone brand used by high school students and the phone brands used by their parents.

Methodology

Population and Sample

The population of interest for this study was high school students aged 16–18 in the San Francisco Bay Area. Due to limited resources, a convenience sample was used. Participants were primarily juniors and seniors at a private high school in Pacifica, California. The school has approximately 84 enrolled high school students, with 42 juniors and seniors eligible for participation.

Because of a limited response rate within the original school population, additional participants were recruited from other high schools in the San Francisco Bay Area to increase the sample size. All additional participants met the same age and enrollment criteria. In total, 22 students participated in the study. All participants provided informed consent and could withdraw at any time; parents of participants who were minors gave consent. One individual chose not to participate and their response was excluded from the data set and analysis.

Data Collection

Data were collected through in-person interviews conducted over a three-week period. Participants were asked a standardized sequence of questions regarding their phone ownership and their parents' phone brands. Participation was voluntary, and informed assent was obtained from all participants prior to data collection. No personally identifying information was collected, and all responses were recorded anonymously.

Due to practical constraints, random sampling was not possible. Instead, participants were recruited through personal contact during school breaks and lunch periods. Responses were recorded using Google Sheets, and all data were stored without identifying information. Information regarding whether participants had siblings and the types of phones their siblings used was collected for contextual purposes but was not included in the statistical analysis.

Analysis/Results

A chi-square test of independence was conducted to examine the association between student phone brand (Apple vs. non-Apple) and parent phone brand (Apple vs. non-Apple). The test yielded a chi-square value of $\chi^2 = 0.05$ with 1 degree of freedom and a p-value of 0.82. Because the p-value exceeds the conventional significance level of 0.05, the null hypothesis was not rejected. These results indicate that there is insufficient statistical evidence to conclude that an association exists between a student's phone brand and their parents' phone brands within the sample.

Table 1 presents the observed frequencies of student and parent phone brand categories used in the analysis. Although most students reported using the same phone brand as at least one parent, this distribution did not differ significantly from what would be expected by chance.

Table 1: Distribution of Student and Parent Phone Brand Categories

	Parent Apple	Parent Non-Apple	Total
Student Apple	19	2	21
Student Non-Apple	1	0	1
Total	20	2	22

Due to the small sample size and the use of convenience sampling, the results of this study may not be generalizable to the broader population of high school students in the San Francisco Bay Area. Results for this study should be interpreted with caution.

Conclusion

This study investigated whether an association between the phone brand of a high school student and the phone brands used by their parents. The results of the chi-squared analysis indicate that there is no statistically significant association between these two variables in the studied sample. Although many students reported using the same brand as at least one parent, the pattern observed was not significantly different from the results that would have appeared due to chance. The null hypothesis was not rejected. The findings suggest that within the sample, the phone brand parents use does not statistically predict the phone brand of the student.

Limitations

This study has several limitations that should be considered when interpreting the results. Due to resource constraints, convenience sampling was used because random sampling was not possible. A majority of the sample consisted of juniors and seniors from one high school with a small number of participants recruited from other high schools in the San Francisco Bay Area. As a result, the sample is not representative of the broader population of high school students. Additionally, the small sample size limits the statistical analysis; therefore, detecting a statistically significant association was difficult. Future research that incorporates larger and



more diverse samples would help provide a clearer understanding of the relationship between a student's phone brand and that of their parents.

Implications/Impact

Although this study did not find a statistically significant association between the phone brands of students and their parents, the observed concentration of phone brands within the sample, such as Apple, reflects broader trends in society, particularly in areas of brand loyalty and consumer behavior. The predominance of a brand such as Apple suggests that a family's purchasing decisions may reinforce familiarity with a brand for the long-term and making its use common.

This pattern matches what previous research has discovered on consumer psychology that suggests that parents have a key role in shaping their child's consumption habits through purchasing decisions and brand exposure (Rose, 1999; Ward, 1974; Williams & Willick, 2023). Even though this study did not find a statistically significant association, the lack of phone brand diversity in this sample suggests that dominant companies ultimately benefit from familial use of their products.

Dominant phone brands likely contribute to difficulties faced by smaller companies or phone manufacturers attempting to enter the market. When families are already familiar with a specific brand, switching to a different brand that is unfamiliar may sacrifice convenience and familiarity, perhaps even cost. This can discourage purchasing products from a different, emerging brand, and this adds to the difficulties smaller manufacturers face. As a result, a more popular, well-established brand will remain dominant while emerging brands struggle to gain customers and earn trust.



References

- Rose, G. M. (1999). Consumer Socialization, Parental Style, and Developmental Timetables in the United States and Japan. *Journal of Marketing*, 63(3), 105–119.
<https://doi.org/10.1177/002224299906300307>
- Ward, S. (1974). Consumer Socialization. *Journal of Consumer Research*, 1(2), 1–14.
<https://www.jstor.org/stable/2489100>
- Williams, D. E., & Willick, B. (2023). Co-shopping and E-commerce: parent's strategies for children's purchase influence. *Electronic Commerce Research*, 25.
<https://doi.org/10.1007/s10660-023-09682-9>